SOV/24-58-8-4/37

AUTHORS: Gvelesiani, G. G., Konyshkova, T. Ye, Tsvetkov, Yu.V. and Chizhikov, D. M. (Moscow)

TITLE: On the Theory of Reduction of Oxides of Heavy Non-Ferrous Metals and their Mixtures with Carbon Monoxide (K teorii vosstanovleniya okislov tyazhelykh tsvetnykh metallov i ikh smesey okis'yu ugleroda)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 8, pp 19-25 (USSR)

ABSTRACT: The author deals with certain problems of the kinetics and the mechanism of reduction of oxides of copper, lead and zinc and of mixtures of these oxides with carbon monoxide. The kinetics of reduction of these oxides were investigated under conditions in which these oxides were in the solid state and the reduced metals were in the solid (Cu), the liquid (Pb) and the gaseous (Zn) states. The adsorption-catalytic theory of G. N. Chufarov (Ref.7), which is based on investigations of the kinetics of reduction of oxides of iron and of some other oxides under such conditions that the product of reduction is obtained in the solid phase, is the most satisfactory from the point of view of explaining up-to-date conceptions of the

On the Theory of Reduction of Oxides of Heavy Non-Ferrous Metals and their Mixtures with Carbon Monoxide

mechanism of reduction of oxides with gases. The influence of the aggregate state of a product on the development of the process of reduction with the progress of time has not been considered by Chufarov. Since lead, zinc and copper accompany each other in metallurgical processes, it is of considerable importance to establish the kinetics governing their simultaneous reduction. At present for studying the kinetics of reduction processes the most widely used method is that of determining the reaction speed from the decrease of the pressure of the reducing gas during the reduction process. However, this method has the drawback that it does not give information on the real change of the progress of the process with time since the pressure of the reducing gas changes continuously during the reduction process. The error is particularly pronounced at relatively low pressures when the quantity of the reducing gas is inadequate even for the complete reduction of a specimen of the studied oxide or compound. The experimental technique (see Ref.1) used by the authors of this paper enabled eliminating these drawbacks. The

On the Theory of Reduction of Oxides of Heavy Non-Ferrous Metals and their Mixtures with Carbon Monoxide

kinetics of reduction were studied whilst maintaining a constant pressure of the reducing gas by utilising the automatic recording of the loss in weight of the specimen. In the first part of the paper the authors discuss the results of separate reduction of the oxides of copper, lead and zinc with carbon monoxide, graphed in Figs.1-7. In the second part the reduction of mixtures of oxides of copper, zinc and lead by means of carbon monoxide, graphed in Figs.8 and 9, are discussed. The authors summarise their results thus: the speed of reduction of CuO at temperatures up to 200°C is characterised by the autocatalytic progress of the kinetic curve; reduction of oxides of lead and zinc begins with the maximum speed in the temperature range 450 to 800°C for PbO and 700 to 1000°C for ZnO. The speed of reduction of CuO and PbO increases with increasing CO pressure in the pressure range 25-100 mm Hg col. for CuO and 50-300 mm Hg col. for PbO. The dependence of the reaction speed on the pressure complies with the isotherm adsorption type equation $v = k p^n$, where $n < 1$; for zinc oxide no such relation has been detected. Depending on the

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activity of the oxides being reduced, this relation was observed also in other temperature ranges and pressures. In the system CuO-PbO, CuO-ZnO and PbO-ZnO no chemical compounds were detected; the thermograph analysis of these systems has revealed the presence of a eutectic, with a fusion point of 688°C, in the system CuO-PbO for a molar ratio CuO/PbO = 1:1. In the case of reducing CuO-PbO mixtures, the CuO increases somewhat the speed of reduction of the PbO and this may be due to a local over-heating of its particles; above 700°C the reducing reaction is braked owing to formation of a liquid phase. In the system PbO-ZnO a braking of the reduction of the ZnO is observed in the temperature range 600 to 700°C due to intensive reduction of the PbO and an increase in the CO_2 concentration resulting therefrom which influences the adsorption properties and also the thermodynamics of reduction. Presence of slight quantities of CuO in CuO-ZnO mixtures, up to the molar ratio CuO/ZnO = 0.5:1, has practically no

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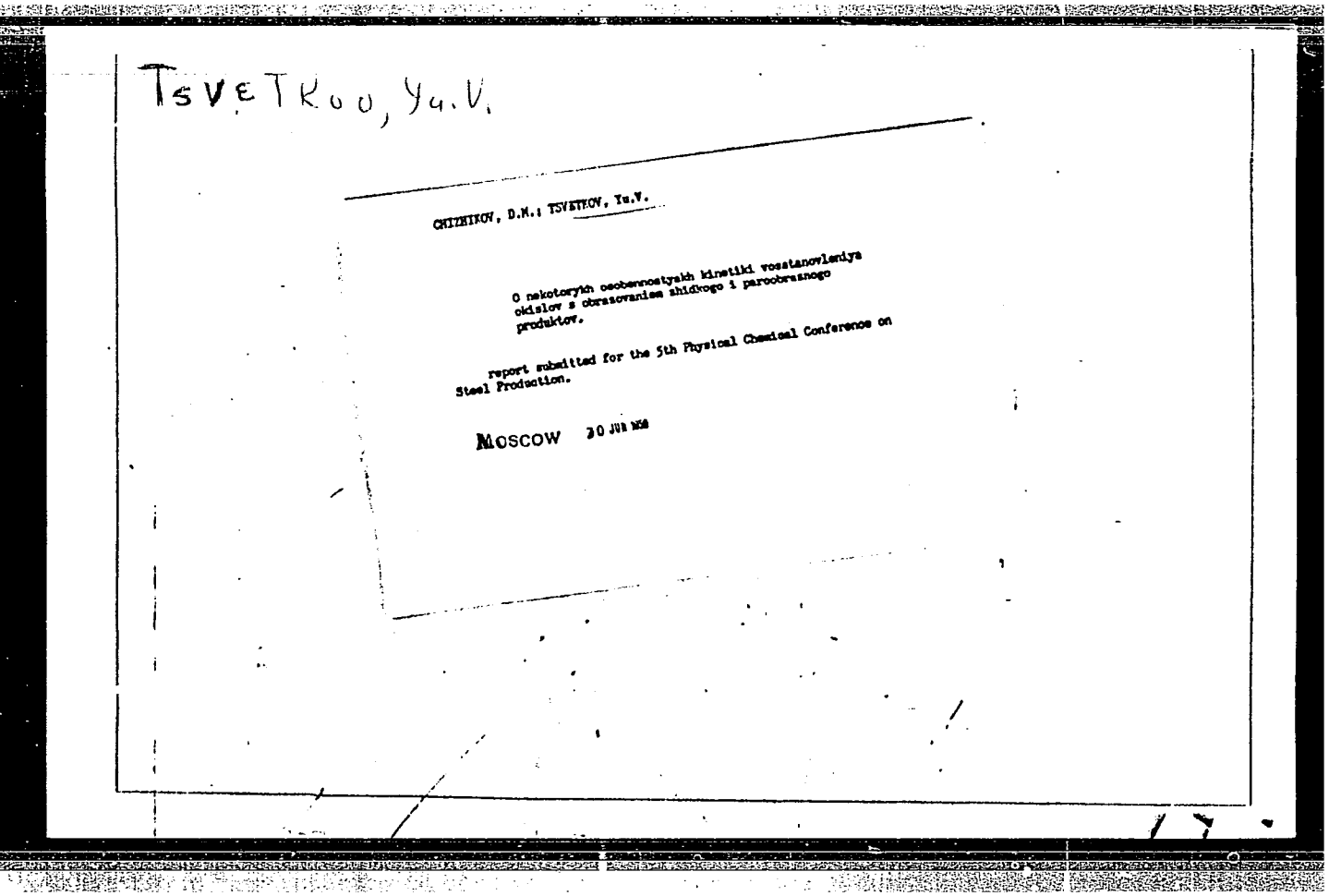
On the Theory of Reduction of Oxides of Heavy Non-Ferrous Metals and their Mixtures with Carbon Monoxide

influence on the speed of reduction of zinc oxide. There are 9 figures and 8 references, 7 of which are Soviet, 1 German.

SUBMITTED: October 8, 1957

1. Metal oxides--Reduction 2. Gases--Chemical effects 3. Carbon monoxide--Metallurgical effects

Card 5/5



TSVETKOV, Yu.V.

CHIZHIKOV, D.M.; TSVETKOV, Yu.V.

O nekotorykh osobennostyakh kinetiki vosstanovleniya okislov s obrazovaniem zhidkogo i parообразного produktov.

Report submitted for the 5th Physical Chemical Conference on Steel Production.

MOSCOW 30 JUN 58

S/020/62/143/003/027/029
B101/B144

18.1290

AUTHORS: Chizhikov, D. M., Corresponding Member AS USSR, Tsvetkov, Yu. V., and Edel'shteyn, V. M.

TITLE: The liquid-vapor equilibrium of high-boiling mixtures at pressures deviating from the atmospheric with the cadmium-zinc system as example

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 3, 1962, 655 - 657

TEXT: An experimental determination of the liquid-vapor equilibrium in autoclaves was carried out with internal heating. The apparatus was evacuated, filled with inert gas, and a certain constant pressure maintained. Two series of experiments were carried out: (a) determination of the dependence of the b.p. on the composition of the Cd-Zn alloy (0-100% Cd) and the pressure (100 - 3800 mm Hg); (b) determination of the effect of pressure on the composition of the vapor in the case of recirculation of the condensed vapor. In the series (a) the alloys were heated in graphite crucibles and the temperature recorded with an ЭПП-09 (EPP-09) recording electronic potentiometer. For the second series an equilibrium apparatus

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of graphite similar in principle to D. F. Othmer's (see below).was used. The activity coefficients of the components were calculated from the experimental data, and by means of these and the temperature dependence of the vapor pressure, the equilibrium diagram liquid-vapor was plotted (Fig. 2). Because of the discovery of the positive deviation of the system examined from the law for ideal solutions, decrease in pressure is presumed to facilitate the separation of Cd from Zn in the case of distillation or rectification. The data obtained by means of the recirculation apparatus confirm the results. There are 2 figures and 7 references: 3 Soviet-bloc and 4 non-Soviet-bloc. The four references to English-language publications read as follows: D. F. Othmer, Ind. and Eng. Chem., 35, no. 5, 614 (1943); O. Kubaschewski, J. A. Catterall, Thermochemical Data of Alloys, London, 1956; K. K. Kelley, U. S. Bur. Min. Bull., no. 383 (1935); C. Maier, U. S. Bur. Min. Bull., no. 324 (1930).

SUBMITTED: October 7, 1961

Fig. 2. Equilibrium diagrams liquid-vapor in the Cd-Zn system. (1) 200 mm Hg; (2) 760 mm Hg; (3) 2280 mm Hg; abscissa: molar parts.

TSVETKOV, Yu. V.

AUTHORS: Chizhikov, D. M., Corresponding Member of the Academy, Slobodskoy, Ya. Ya., Tsvetkov, Yu. V. 20-3-46/59

TITLE: Note on the Catalytic Action of Zinc on the Decomposition of Carbon Oxide (O kataliticheskom deystvii tsinka na razlozheniye okisi ugleroda).

PERIODICAL: Doklady Akademii Nauk, 1957, Vol. 115, Nr 3, pp. 586-587 (USSR).

ABSTRACT: It is well known, that at 900°C the decomposition of CO becomes thermodynamically possible. Without an catalysator, however, it does not take place, practically, because of the tight combinations of the carbon- and oxygen atoms in the CO molecule. A number of papers proved, that metal oxydes do not catalyse this reaction, but some metals (Fe, Ni, Co, Cr) act as catalysators, in particular, if they are produced in active form by reduction. References are contradicting with respect to zinc having any effect. This question of the influence of zinc has a great practical importance. There are known, for example, destructions in the upper parts of furnaces, which occured on the smelting of ores with a little zinc content. This formation of zinc oxide in the pores of the furnace coating can also take place in the pyrometallurgy of zinc. In the case the oxidation of zinc leads to a reduction in the production rate of liquid zinc

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Note on the Catalytic Action of Zinc on the Decomposition of Carbon Oxide. 20-3-46/59

metal. The authors have investigated, separately from each other, the kinetics of the reduction on zinc oxide by carbon monooxide and the condensation of zinc vapour in pure carbon monoxide. They observed the formation of soot-like carbon as a decomposition product of CO. This took place at 600-700°C at the samples subjected to reduction, as well as at the walls of the reaction container at the points of lead oxide. This gives reason to the supposition, that the catalytic influence of zinc possesses a maximum, which is dependent on an optimum concentration of zinc. Control experiments without zinc produced neither CO_2 nor carbon black. The above data confirm the catalytic effects of zinc on the decomposition reaction of carbon monoxide in the temperature range from 50°C to 800°C.
There are 12 Slavic references.

ASSOCIATION: Institute for Metallurgy AN USSR imeni A. A. Baykov.(Institut metallurgii im. A.A.Baykova Akademii nauk SSSR)
SUBMITTED: February 26, 1957.
AVAILABLE: Library of Congress.
Card 2/2

VOLKOVA, M.Ye. (Moskva); TSVETKOV, Yu.V. (Moskva); CHIZHIKOV, D.M. (Moskva)

Thermodynamics and kinetics of the carbothermic reduction of tin oxide from molten silicates. Izv. AN SSSR. Met. i gor. delo no.4:63-67 Jl-Ag '64. (MIRA 17:9)

VOLKOVA, M.Ye.; TSVETKOV, Yu.V.

Use of overlapping integrals for the evaluation of the degree of ionicity and stability of the chemical bond in metal oxides. Zhur. neorg. khim. 9 no.5:1246-1249 My '64. (MIRA 17:9)

BEREZKINA, L.G. (MOSKVA); TSVETKOV, Yu.V.(Moskva); CHIZHIKOV, D.M. (Moskva)

Kinetics of the reduction of free lead oxide and of lead oxide by means of carbon monoxide. Izv. AN SSSR. Otd. tekh. nauk. Met.i topl. no.2:49-54 Mr-Ap '61. (MIRA 14:4)
(Lead--Metallurgy)

CHIZHIKOV, D.M.; VOLKOVA, M.Ya.; TSVETKOV, Yu.M.

Determination of tin monoxide activity in melts of the $SnO-SiO_2$ systems using the electromotive force method. Dokl. AN SSSR 150 no.2:353-355 My '63. (MIRA 16:5)

1. Institut metallurgii im. A.A.Baykova. 2. Chlen-korrespondent AN SSSR (for Chizhikov).
(Tin oxides) (Electromotive force)

TSVETKOV, Yu.V.; EDER'SHTEYN, V.M.

Investigating liquid-vapor equilibrium in the system cadmium - zinc at pressures other than atmospheric. Trudy Inst. met. no.12:95-105 '63. (MIRA 16:6)

(Vapor-liquid equilibrium)
(Cadmium--Thermal properties)
(Zinc--Thermal properties)

TSVETKOV, Yu. V.; EDEL'SHTEYN, V. M.; TAGIROV, I. K. (Moscow)

Method for the investigation of vapor-liquid equilibrium of high boiling mixtures at other than atmospheric pressures. Zhur. fiz. khim. 36 no.12:2806-2808 D '62. (MIRA 16:1)

1. Institut metallurgii imeni Baykova.

(Phase rule and equilibrium) (Vapor pressure) (Alloys)

TSVETKOV-IVANOV, M., doktor

Diagnosis of acute appendicitis. Khirurgiia 38 no.10:121-122 O '62. (MIRA 15:12)

1. Iz khirurgicheskogo otdeleniya (zav. - doktor M. TSvetkov-Ivanov) mediko-sanitarnoy chasti (glavnyy vrach B. Khristov), Bobov-Dol (Bolgariya).
(APPENDICITIS)

TSVETKOV-PROSVESHCHENSKIY, Aleksandr Kuz'mich; IL'INA, I., redaktor; TROYANOVSKAYA, N. tekhnicheskiy redaktor

[Between two revolutions (1907-1916)] Mezhdu dvumia revoliutsiiami (1907-1916 gg.) Moskva, Gos. i zd-vo polit. lit-ry, 1957. (MLRA 10:5)
162 p.
(Labor and laboring classes)

GROMOV, M., inzh. teplovoy laboratorii; TSVETKOVA, A., inzh. teplovoy laboratorii

Selecting diameter of the nozzle of a gas burner. Obshchestv. pit. no.9:53 S '58. (MIRA 11:10)

1. TSentral'noye konstruktorskoye byuro torgovogo mashinostroyeniya. (Gas burners)

LARYUKHINA, G.; KOLESOVA, V.; GEGICHKORI, A.; TSVETKOVA, A.; GIDU, Ye., agronom; DRYAGINA, L., agronom; SYCHEV, V., inzh.

Low-volume spraying of orchards. Zashch. rast. ot vred. i bol. 10 no.8:25-27 '65. (MIRA 18:11)

1. Zaveduyushchaya laboratoriyey Pushkinskoy mashinoispytatel'noy stantsii, p/o Pravdinskiy, Moskovskoy oblasti (for Laryukhina). 2. Starshiy agronom-entomolog Pushkinskoy mashinoispytatel'noy stantsii, p/o Pravdinskiy, Moskovskoy oblasti (for Kolesova). 3. Starshiy agronom-ekonomist Pushkinskoy mashinoispytatel'noy stantsii, p/o Pravdinskiy, Moskovskoy oblasti (for Gegichkori). 4. Zaveduyushchaya laboratoriyey ispytaniya yadokhimikatov Moldavskoy mashinoispytatel'noy stantsii (for Tsvetkova). 5. Moldavskaya mashinoispytatel'naya stantsiya (for Gidu, Dryagina, Sychev).

TSVETKOVA, Anna d-r.

Greater labor production in the mining industry. Trud tseni 3 no.8: 7-19 '61.

(Labor productivity)

L 3830-66 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)

ACCESSION NR: AP5021076 UR/0288/65/000/002/0088/0093
532.5.29.5 621.43.03

36
35
B

AUTHOR: Bashkatov, V. A.; Tsvetkova, A. A.

TITLE: Certain peculiarities of the calculation of the nonequilibrated two-phase jet

SOURCE: AN SSSR. Sibirskoye otdeleniye. Izvestiya. Seriya tekhnicheskikh nauk, no. 2, 1965, 88-93

TOPIC TAGS: air flow, gas jet, flow analysis, flow velocity, subsonic flow, flow density

ABSTRACT: Earlier investigations of the acceleration and deceleration of droplets in gas flows did not take into account the mechanical interactions between the gas and the droplets. The present study investigates a flow of gas and droplet the temperatures and velocities of which are essentially different. The mechanical and thermal interactions are taken into account and the equations of motion of the particles are presented in the form of an empiric quadratic law incorporating the pressure gradient. In addition to the usual assumptions that the probability of splitting and collision of particles is negligibly small, that the size of all

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particles is equal to the mean statistical (over the weight) diameter of the droplets, and that the mechanical gas-droplet interaction resembles an elastic collision with a nonsubstantial energy dissipation, the present authors assume that 1) the flow lines are smooth; 2) the length of the channel is much greater than its cross section; 3) the unidimensional approximation can be applied; 4) there are no chemical or phase transitions present; 5) the droplet density, their size, and the gas parameters are described by the inequality

$$2d_k < l << L,$$

(where d_k is the mean statistical (over the weight) droplet diameter; l is the mean statistical distance between the droplets; L is the linear dimension of the entire flow); 6) the droplet temperature may be assumed uniform because of the large thermal conductivity of the fluid; and 7) the gas velocity relative to the droplets is subsonic. The calculational approach is illustrated by numerical evaluations on an electronic computer of the isochoric process for the case of water droplets within the vapor. Results point to the wide range of the possible values of the characteristics of the gas-dynamic process as function of various flow conditions even prior to the start of phase transitions. Orig. art. has: 39 formulas and 4 figures.

L 3830-66

ACCESSION NR: AP5021076

ASSOCIATION: Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Hydrodynamics, Siberian Branch, AN SSSR)

SUBMITTED: 30Oct64 ENCL: 00 SUB CODE: ME

NO REF SOV: 005 OTHER: 001

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BASHKATOV, V.A.; TSVETKOVA, A.A.

Considering the temperature variation inside a drop in calculating a two-phase flow. Izv. SO AN SSSR no. 10. Ser. tekh. nauk no. 3:159-161 '65 (MIRA 19:1)

1. Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR, Novosibirsk. Submitted February 22, 1965.

TSVETKOVA, A.F., inzhener; CHECHERSKAYA, M.M., inzhener.

Good results from the use of looms without shuttles for flax weaving. Tekst.prom. 17 no.2:34-35 F '57. (MLRA 10:2)

1. Gosudarstvennyy proyektnyy institut-1.
(Looms) (Flax)

TSVETKOVA, A.I.

Theorem of approximation in the calculus of variations. Nauch. dokl. vys. skoly; fiz.-mat.nauki no.1:32-36 '58. (MIRA 12:3)

1.Gor'kovskiy institut vodnogo transporta.
(Calculus of variations)

45192

S/191/63/000/001/001/017
B101/B186

AUTHORS: Matveyeva, Ye. N., Khin'kis, S. S., Tsvetkova, A. I., Balandina, V. A.

TITLE: Aging of polyolefins. Thermooxidative degradation of polyolefins

PERIODICAL: Plasticheskiye massy, no. 1, 1963, 2-7

TEXT: Films 100 μ thick were produced from high-pressure polyethylene (HPPE), low-pressure polyethylene (LPPE), polypropylene (PP), and ethylene propylene copolymer (EPC), and heated in oxygen atmosphere. In designing the test apparatus with circulating oxygen and collection of the volatile oxidation products at nitrogen temperature advantage was taken of the experience gained by J. R. Shelton, W. Z. Cox (Rubber Chem. and Technol., 26, 632 (1953)) and J. L. Bolland (Proc. Roy. Soc., 186, 218 (1946)). Adsorption of O_2 at 120-170°C was measured, the volatile oxidation products were chromatographically analyzed for H_2, CO, CO_2, the liquid ones for acids, esters, peroxides, unsaturated an carbonyl compounds, and

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Aging of polyolefins. ...

water. The content of oxygen-containing groups and unsaturated compounds was determined in the oxidized films. The change of physicochemical properties was studied. Results: (1) Adsorption of O_2 by PP was ~750 mmoles/mole after 240 min, whereas the corresponding values were between 100 and 200 mmoles/mole for the other polyolefins. As regards stability against oxidation the polyolefins are in the order PP≪EPC < LPPE < HPPE and the activation energies for oxygen adsorption are correspondingly 21.8, 30.8, 31.9, and 32.7 kcal/mole. (2) The rate of degradation increases with increasing temperature, e.g., 14.0% volatile products were formed from LPPE after 4 hrs at 150°C, and 24% at 170°C. (3) Oxidation renders polyolefin films brittle and dark-colored, with some loss of their solubility in xylene. The viscosity of the xylene-soluble fraction decreases. (4) Oxidation of HPPE at 150°C for 4 hrs yields about 4% insoluble fraction, 1.9-2.4 mmoles/mole formaldehyde, 1.4-1.5 mmoles/mole acetaldehyde, the bromine number being 3-3.6. The corresponding data for LPPE are: about 24%, 1.2-1.8, 0.9-1.4, 2-2.6. The different behavior of HPPE as compared with that of LPPE is explained by a higher content of methyl and carbonyl groups in the former. (5) tan δ

Aging of polyolefins. ...

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of LPPE rises from 0.0004 to 0.028 at 150°C after 8 hrs (at 10^3 cps), tan δ of HPPE reaches this value after 4 hrs. Conclusion: Polyolefins oxidize autocatalytically. There are 9 figures and 4 tables.

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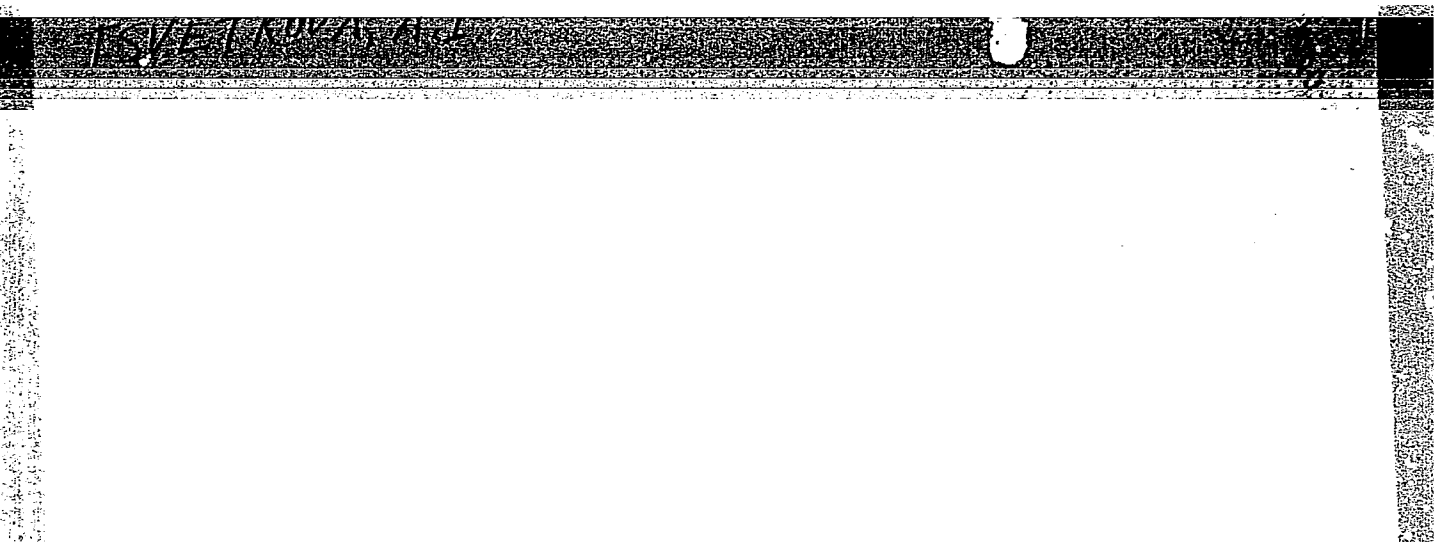
MATVEYEVA, Ye.N.; KHIN'KIS, S.S.; TSVETKOVA, A.I.; BALANDINA, V.A.

Aging of polyolefins. Thermal oxidative degradation of polyolefins. Plast.massy no.1:2-7 '63. (MIRA 16:2)
(Olefins) (Polymers) (Oxidation)



CA

23

The effect of various compositions of precipitating baths and various desulfurizing solutions on the serimetric properties of fibers. A. S. Tsvetkova. *Tekh. Byull. GUTV* 1939, No. 2, 60-2; *Khim. Referat. Zhur.* 1940, No. 7, 108.—T. investigated the effect of various composi of spinning baths and of various desulfurizing baths (Na OH, Na_2S, Na_2SO_3, NaOH + Na_2SO_3) on the changes in the elongation of fibers in the dry and wet states.

W. R. Henn

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757220014-2

S/149/61/000/002/005/017
A006/A001

AUTHORS: Layner, A.I., Kolenkova, M.A., Tsvetkova, A.V.

TITLE: Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1961, No. 2, pp. 76 - 80

TEXT: After filtration, diluted beryllium sulfate solutions are purified from aluminum admixtures by evaporation. Viscosity of the solution is one of the basic factors determining the filtration rate. Therefore the effect of temperature and concentration of the solution on their viscosity is of practical interest. Experiments were made with pure and commercial beryllium sulfate solutions. The pure solutions were prepared by dissolving crystalline beryllium sulfate at concentrations of 45.6; 30,4; 22.8 and 15.2 g/l of BeO. Relative viscosity was determined in a thermostat using an Ostwald viscosimeter and calculated by the formula $\eta = \eta_w \frac{\tau \gamma}{\tau_w \gamma_w}$, where η is the relative viscosity of the solution investigated at a given temperature, in c poise; η_w is the viscosity of water at

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Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

the same temperature, in c poise; τ and τ_w are the time of flow of the solution and the water, in sec; γ and γ_w are the specific weight of the solution and water in g/ml. Changes in the specific weight and viscosity of pure solutions depending on concentration and temperature of the solution are shown in Figures 1 and 2. At a BeO concentration, raised from 15.2 to 45.6 g/l, viscosity increases; it decreases at higher temperatures, in particular, within the 20 to 40°C range. Analogous experiments were made with commercial solutions obtained from beryllium by the conventional sulfatic method, with BeO concentrations ranging from 38.6 to 12.8 g/l. Results are given in Figures 3 and 4. It appears that at a similar concentration of BeO, commercial sulfate solutions have higher specific weight and viscosity than pure sulfate solutions; this is caused by the presence of numerous impurities. The experimental data obtained can be used to calculate the effect of temperature and concentration of sulfate solutions on the filtration rate, which depends on the viscosity of the pulp. Therefore, if the filtration rate of anyone of the solutions with a determined viscosity is known, the filtration rate of the other solution can be calculated by formula

$$v = \frac{\pi r^4 \rho}{l} \cdot \frac{1}{\mu},$$

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A006/A001

Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

the same temperature, in c poise; τ and τ_w are the time of flow of the solution and the water, in sec; γ and γ_w are the specific weight of the solution and water in g/ml. Changes in the specific weight and viscosity of pure solutions depending on concentration and temperature of the solution are shown in Figures 1 and 2. At a BeO concentration, raised from 15.2 to 45.6 g/l, viscosity increases; it decreases at higher temperatures, in particular, within the 20 to 40°C range. Analogous experiments were made with commercial solutions obtained from beryllium by the conventional sulfatic method, with BeO concentrations ranging from 38.6 to 12.8 g/l. Results are given in Figures 3 and 4. It appears that at a similar concentration of BeO, commercial sulfate solutions have higher specific weight and viscosity than pure sulfate solutions; this is caused by the presence of numerous impurities. The experimental data obtained can be used to calculate the effect of temperature and concentration of sulfate solutions on the filtration rate, which depends on the viscosity of the pulp. Therefore, if the filtration rate of anyone of the solutions with a determined viscosity is known, the filtration rate of the other solution can be calculated by formula

$$v = \frac{\pi r^4 \rho}{l} \cdot \frac{1}{\mu},$$

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Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

case of dilution. The formula $C = d \operatorname{ctg} \alpha$ (where C is the BeO concentration, g/l; d is the specific weight of the solution, α is the inclination angle of the concentration line to the abscica axis (Figure 6)) is recommended for the plotting of curves to determine BeO concentration by the specific weight of the solution without chemical analysis.

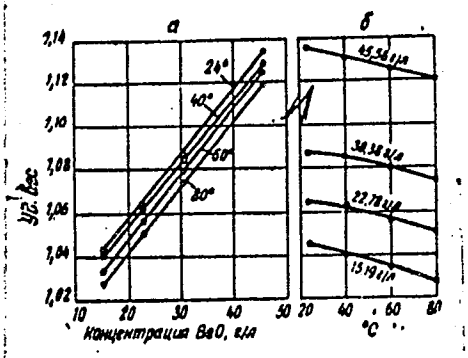

Figure 1:

Changes in the specific weight of pure sulfate solutions depending on BeO concentration (a) and temperature (b).

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A006/A001

Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

Figure 2:

Changes in viscosity of pure sulfate solutions depending on the concentration of BeO (a) and temperature (b)

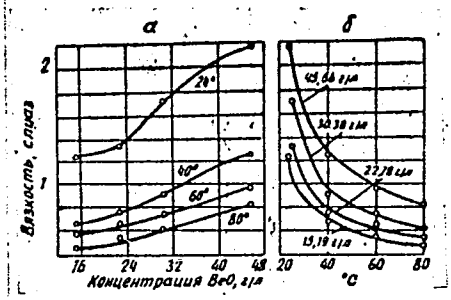
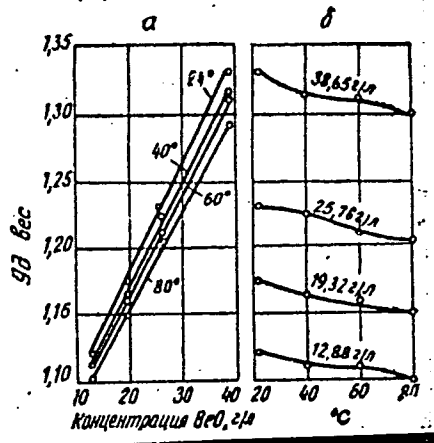


Figure 3:

Changes in the specific weight of commercial sulfate solutions dpending on concentration (a) and temperature (b).



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A006/A001

Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

Figure 4:

The effect of BeO concentration on viscosity of commercial solutions.

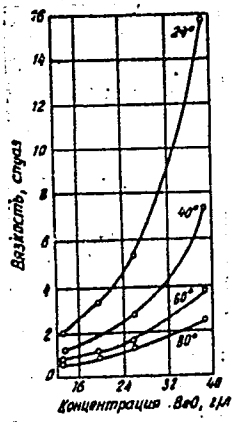
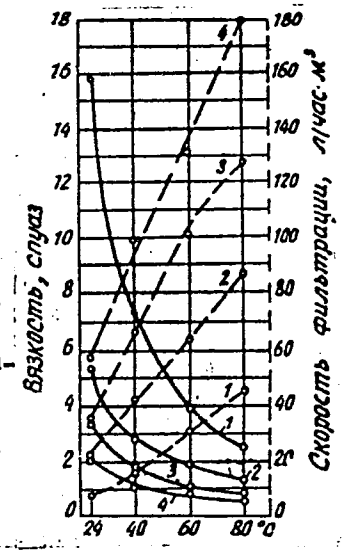


Figure 5:

Dependence of viscosity (continuous lines) and filtration rate (dotted lines) of commercial solutions on temperature and concentration of BeO (1 - 38.65 g/l; 2 - 25.76 g/l; 3 - 19.32 g/l; 4 - 12.88 g/l).



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S/149/61/000/002/005/017
A006/A001

Specific Weight and Viscosity of Beryllium Sulfate Solutions and Their Effect on the Filtration Rate

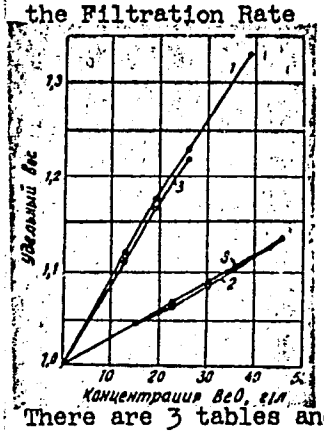

Figure 6:

Dependence of specific weight on BeO concentration in the initial solution at 24°C. 1 - commercial solution; 2 - pure solution; 3 - calculated data.

There are 3 tables and 6 figures.

ASSOCIATIONS: Krasnoyarskiy institut tsvetnykh metallov (Krasnoyarsk Institute of Non-Ferrous Metals); Kafedra metallurgii legkikh metallov (Department of Metallurgy of Light Metals).

SUBMITTED: May 17, 1960

Card 7/7

LAYNER, A.I.; KOLENKOVA, M.A.; TSVETKOVA, A.V.

Specific weight and viscosity of beryllium sulfate solutions and their effect on the speed of filtration. Izv. vys. ucheb. zav.; tsvet. met. 4 no.2:76-80 '61. (MIRA 14:6)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii legkikh metallov.

(Beryllium sulfate)
(Hydrometallurgy)

TSVETKOVA, Bistra, kandidat na istoricheskite nauki, st.n.sutr.

Nikola Traikov; obituary. Nauch zhivot 6 no.2:20 Ap-Je'63.

1. Bulgarska akademiia na naukite.

TSVETKOVA, D.F., ordinator

Paralytic pes calcaneus and its treatment. Zdrav. Bel. 7 no.5: 34-37 My '61. (MIRA 14:6)

1. Iz Minskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (direktor - prof. R.M.Minina, nauchnyy rukovoditel' - professor B.N.TSypkin [deceased].
(FOOT--ABNORMITIES AND DEFORMITIES)

TSVETKOVA, D.I.

Thermal circulatory index in the evaluation of the state of patients with diseases of the digestive system. Trudy SMI 16:70-73 '63. (MIRA 18:1)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. P.N.Stepanov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

L 07067-67 ENT(1) IG

ACC NR: AP6021930 SOURCE CODE: UR/0197/66/000/003/0035/0043

AUTHOR: Sklyarevich, A.; Tsvetkova, E.

ORG: Institute of Electronics and Computer Technology, AN LatSSR (Institut elektroniki i vychislitel'noy tekhniki AN LatSSR)

TITLE: Statistical characteristics of the number of cycles of faultless operation of a logical automaton in the case of failures

SOURCE: ANLatSSR. Izvestiya, no. 3, 1966, 35-43

TOPIC TAGS: automaton, logic circuit, circuit failure, statistic analysis, statistic distribution, circuit reliability

ABSTRACT: From the instant a failure occurs within a logical automaton to the instant this failure is detected, the automaton accurately carries out a certain number of operations. Since the number of faultless cycles is a statistical event, the authors derived equations yielding the statistical distribution of automaton operations during the transient and stationary operating conditions. The theory applies to arbitrary primitive or inertial automatons with a single output whose operating conditions are specified by a diagram of cycles showing all the

Card 1/2

transitions which are possible within the automaton. The transitions within the automaton occur during a certain operating time interval, the input of the automaton accepts potential signals, the statistical characteristics of input signals remain constant for all intervals of the automaton's operation, the signals appearing at the input are statistically mutually independent, the changes in input signals occur only during the start of an interval, failures also appear only at the start of intervals, all transitions within the automaton are possible, and the logical automaton responds instantaneously, i.e., the output signal changes for all practical purposes simultaneously with the change of input signals so that during the operating time interval there occur no variations in the input or output signals. The methodology is presented for the determination of the statistical characteristic of the number of cycles of faultless operation of automatons following the occurrence of a failure. Orig. art. has: 35 formulas, 1 table, and 2 figures.

SUB CODE: 09,12 / SUBM DATE: 17Aug65/ ORIG REF: 004

TSVETKOVA E.M.

2348. OLSUF'EV N. G., TSVETKOVA E. M., BORODIN V. P., KOROLEVA A. N. and SIL'CHENKO V. S. Inst. of Epidemiol. and Microbiol., Acad. of Med. Sci., of the USSR, and the Antitularaemia Stations at Stalingrad and other Towns.
*Tularin from a vaccine-strain for percutaneous use
Ž. MIKROBIOL. 1956, 9 (22-29) Tables 3 (Russian text)

Two sets of tularin with differing content of bacterial bodies (2 and 1.5 thousand million bacterial cells per ml.) were prepared from a vaccine-strain. Simultaneously, two sets of tularin containing the same quantities of bacterial cells were prepared from a virulent strain. These preparations were tested on vaccinated persons and persons recovered from tularaemia. The percutaneous tularin test was done on 3867 vaccinated and 202 recovered persons. The following results were obtained: 88.3-94% of the vaccinated reacted to the percutaneous tularin test. Differences in the strains from which the tularin had been prepared, had no effect upon the intensity of the local skin reaction. Reactions of moderate or average intensity (0.5-2 cm. in diameter) to tularin in a concentration of 1.5 thousand millions were recorded in 91.4-91.8% of cases and in 87.6-88.4% of cases to tularin in concentrations of 2 thousand millions. Only in 1.2-2.8% of cases were side-reactions noted and in no case was there necrosis. Tularin gave positive reactions in persons vaccinated up to 9 yr. previously. Amongst recovered persons practically all reacted to the percutaneous Tularin test but with this difference, that in them side-reactions were recorded in 20-22% of cases and the skin reaction was somewhat more intense. The value of the percutaneous tularin test was confirmed by the intracutaneous tularin test, but in the latter the skin reaction was even more intense. The test was made on the middle third of the upper arm

and the reactions read after 48 hr. A blank test with physiological saline was made on the opposite arm. On the basis of this work the authors consider that the percutaneous tularin test is fully suitable for the determination of the immune state of a population. It is technically simpler and causes less reaction than the intracutaneous test.

Kaulen - Moscow

ACC NR: AP6024854 (N) SOURCE CODE: UR/0371/66/000/002/0083/0090

AUTHOR: Sklyarevich, A. N. -- Sklarevics, A.; Tsvetkova, E. N. -- Cvetkova, E.

ORG: Institute of electronics and computational techniques AN LatSSR (Institut elektroniki i vychislitel'noy tekhniki AN Latv.SSR)

TITLE: Unconditional statistical characteristics of the number of cycles of perfect work of finite automata

SOURCE: AN LatSSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk, no. 2, 1966, 83-90

TOPIC TAGS: statistical analysis, distribution function, finite automaton, automaton error theory, automaton reliability theory

ABSTRACT: The problem of finding the distribution function, G(n), of the number n of correct work cycles of a finite automaton from the start until the emergence of error in its output is considered. The non-failure operating time of the automaton is regarded as a random quantity - the sum of two random quantities: the time from start up to the internal occurence of a fault; and the time from the internal fault occurence to the error emergence at the output of the automaton. The statistical characteristics of n_1 - the number of cycles until internal fault occurence, and of n_2 - the number of cycles from the fault occurence until error emergence are assumed to be known and given as the unconditional distribution function $F(n_1)$, and the conditi-

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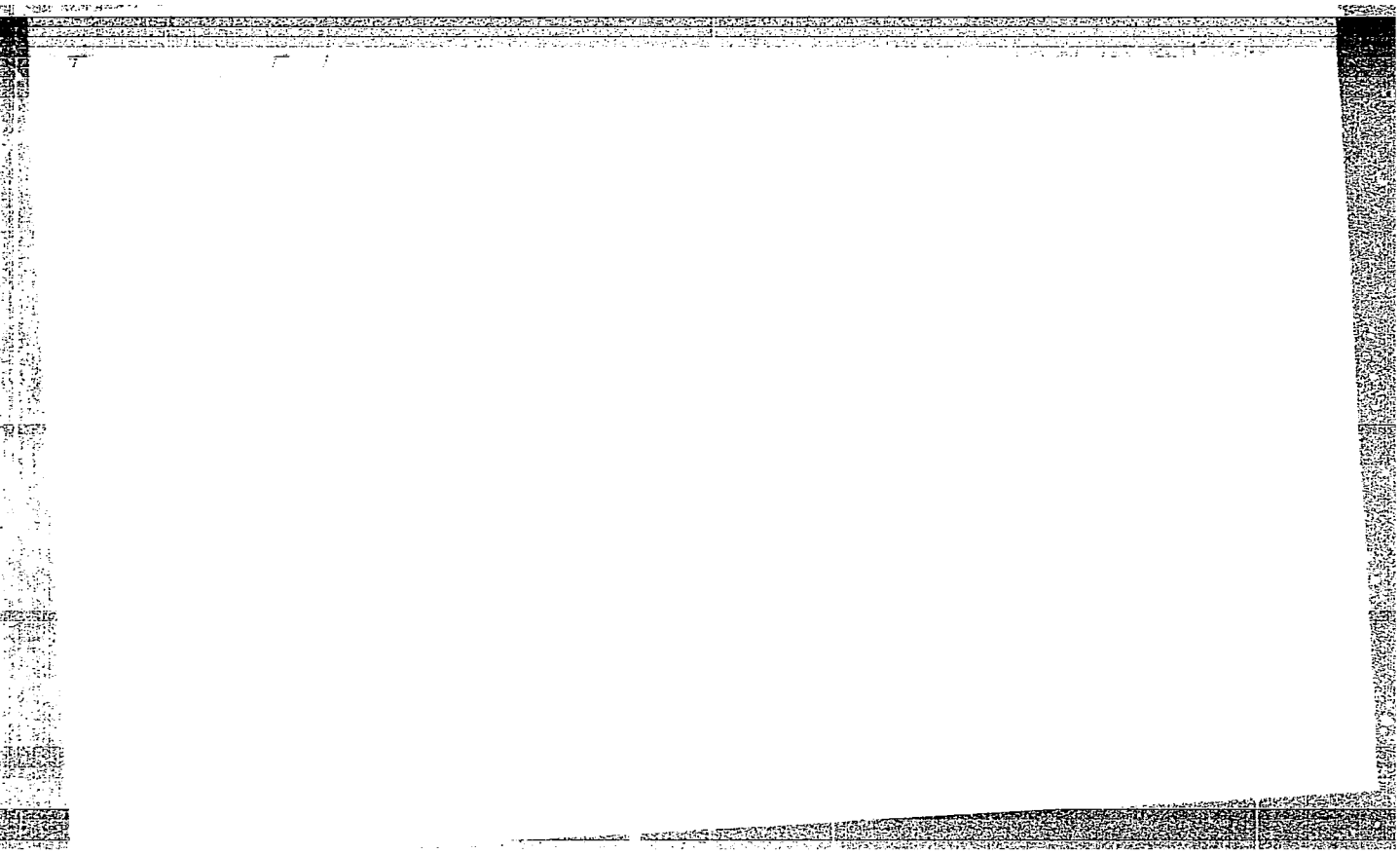
ACC NR: AP6024854

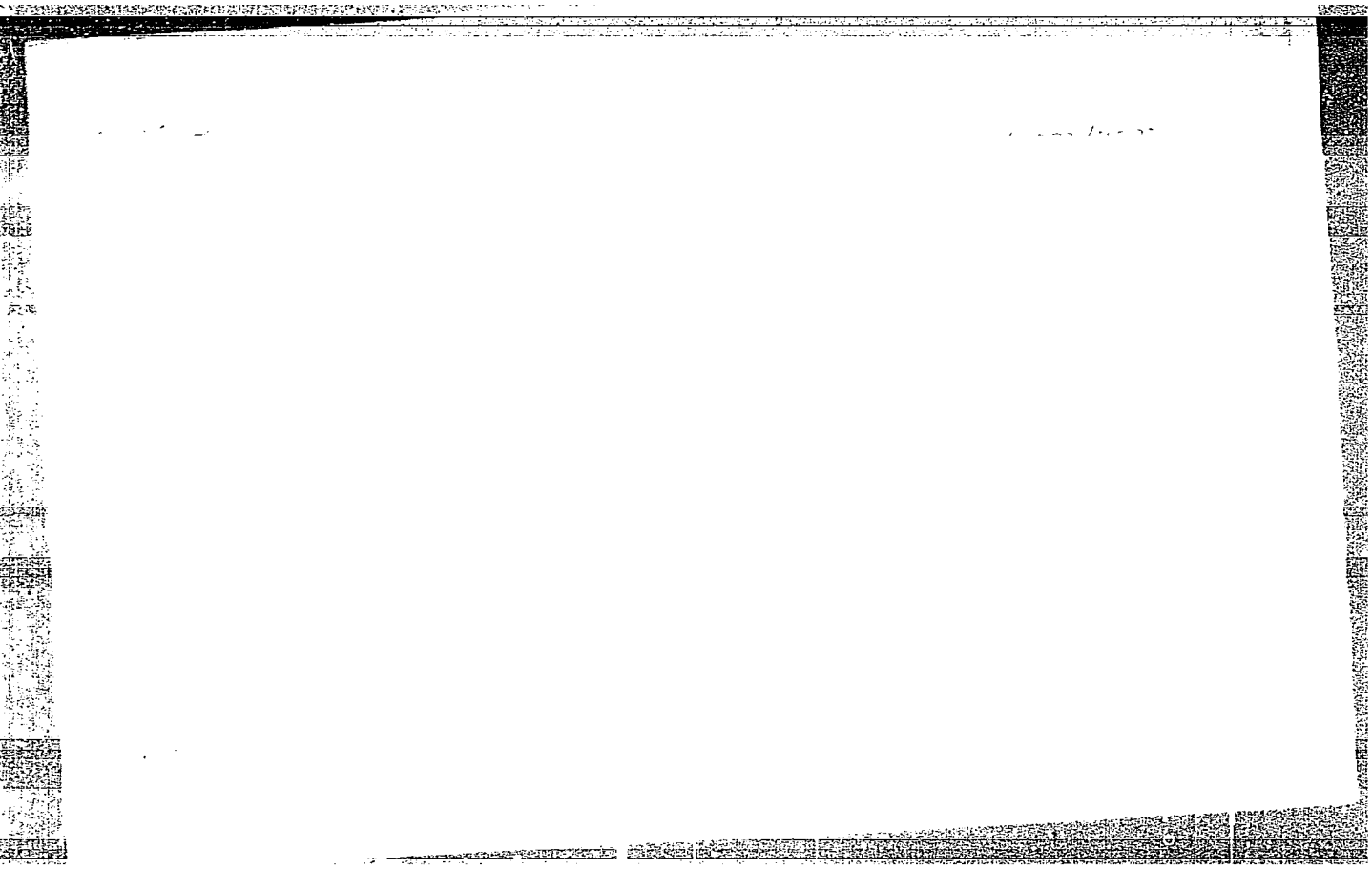
onal distribution function for n_2 - $\phi(n_2,n_1)$ - under the condition of prior internal error occurence at the n_1-st cycle. General expressions for the desired distribution function G(n) and for the average number of correct cycles, et c. are obtained. An analytical expression for G(n) is obtained in the case of an exponential distribution law of the fault occurence and fault energence (or fault internal hybernation - Abstractor) time intervals.

SUB CODE: 09, 12/ SUBM DATE: 18Oct65/ ORIG REF: 002

Card 2/2



APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001757220014-2"



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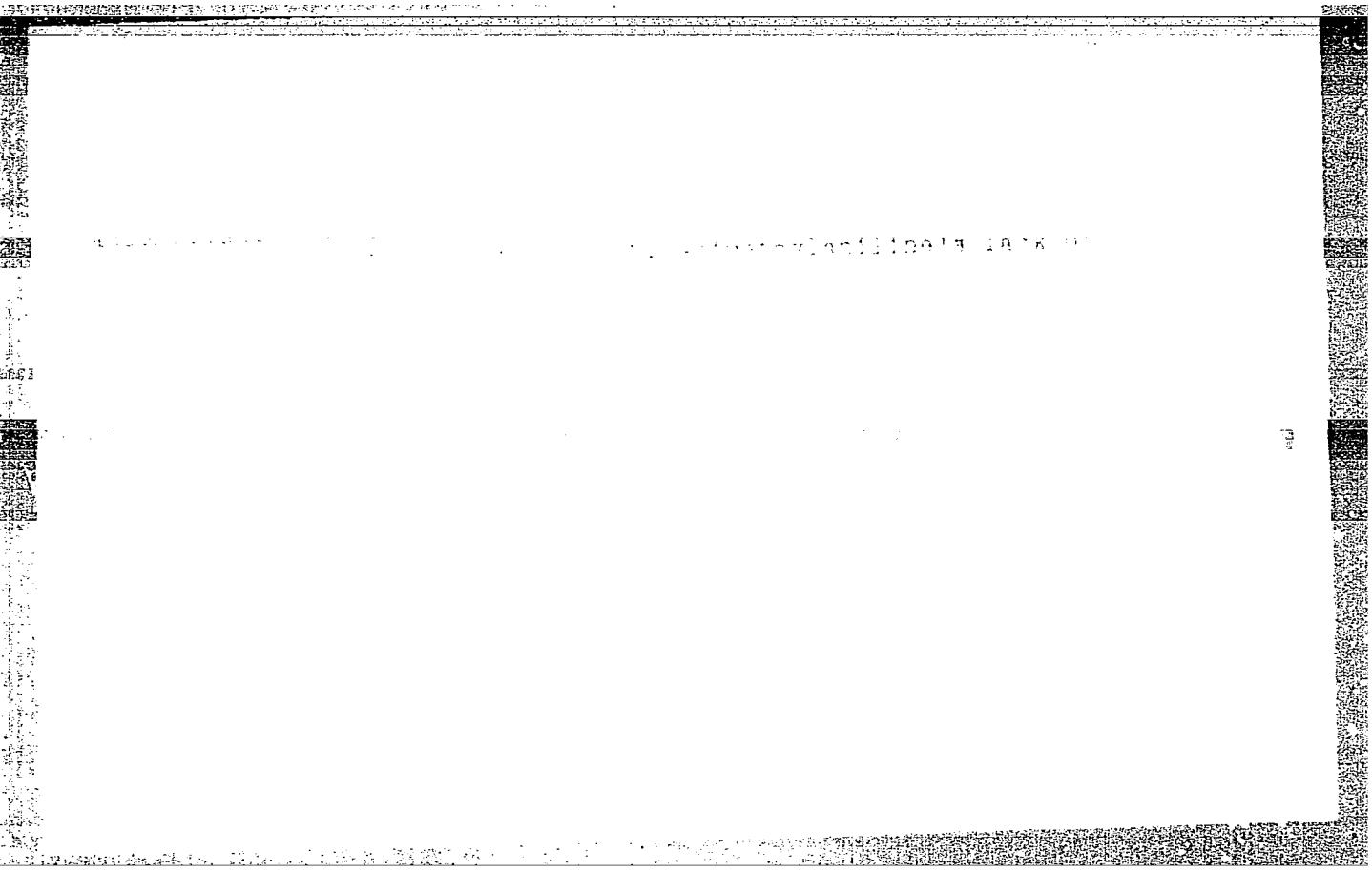


LAPKINA, Natal'ya Aleksandrovna, prepodavatel'; PORUBINOVSKIY, Aleksandr Mikhaylovich, prepodavatel' [deceased]; TSVETKOVA, Galina Aleksandrovna, prepodavatel'; NEKLYUKOVA, Nina Petrovna, prepodavatel'; SOKOLOVA, Varvara Vladimirovna, prepodavatel'; VODOVOZOVA, Mariya Vladimirovna, prepodavatel'; FISHCHEVA, T.V., red.; SMIRNOVA, M.I., tekhn.red.

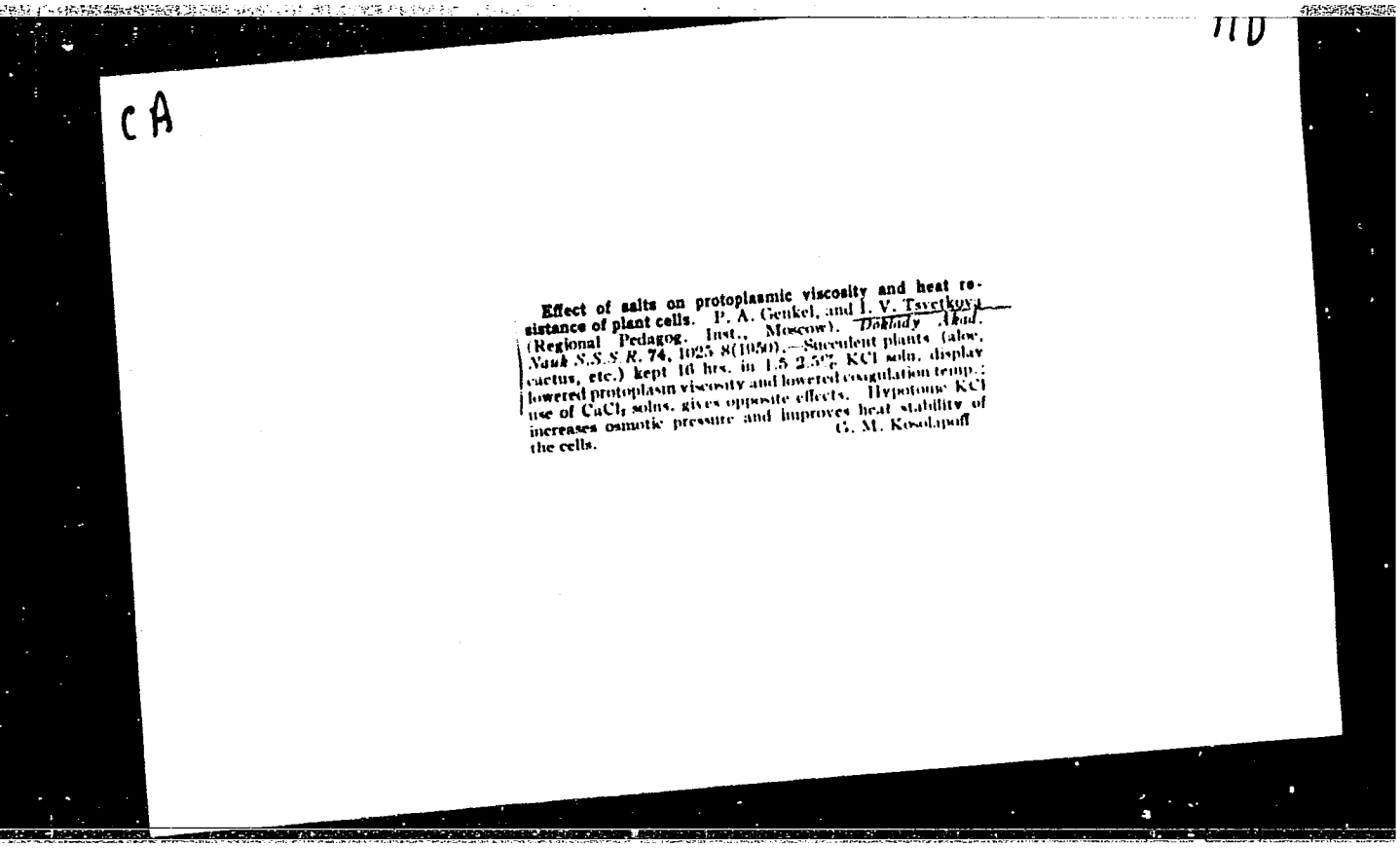
[Extracurricular field work on geography; teachers' manual] Vneklassnaia rabota po geografii v prirode; posobie dlia uchitelei. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1959. 189 p. (MIRA 12:11)

1. Kafedra obshchey fizicheskoy geografii geograficheskogo fakul'teta Moskovskogo gorodskogo pedagogicheskogo instituta im.V.P. Potemkina (for all except Fishcheva, Smirnova).
(Geography--Study and teaching)

TSVETKOVA, I.V.

Neuraminic acid and its significance in the organism. Vop. med. khim. 7 no. 1:3-16 Ja-F '61. (MIRA 14:4)

1. Laboratoriya klinicheskoy biokhimii Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.
(NEURAMINIC ACID)

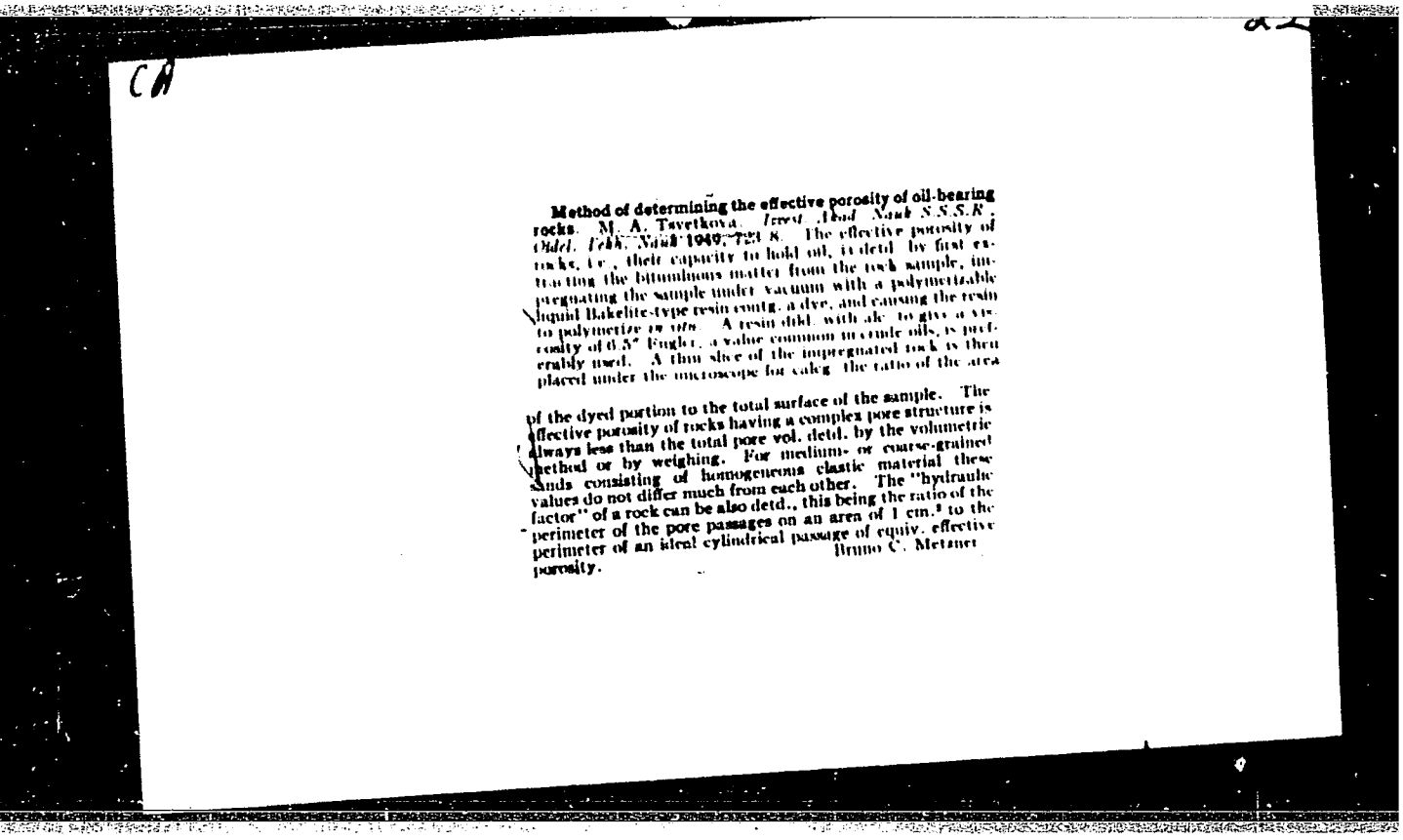


CA

Effect of salts on protoplasmic viscosity and heat resistance of plant cells. P. A. Genkel, and I. V. Tsvetkova (Regional Pedagog. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 74, 1025-8(1950).—Succulent plants (aloe, cactus, etc.) kept 16 hrs. in 1.5-2.5% KCl soln. display lowered protoplasm viscosity and lowered coagulation temp.; use of $CaCl_2$ solns. gives opposite effects. Hypotonic KCl increases osmotic pressure and improves heat stability of the cells.
G. M. Kosolapoff

cA

Structural change of porosity of petroleum-collecting rocks, by treatment with hydrochloric acid. M. A. [illegible] *Doklady Akad. Nauk S.S.S.R.* 69, 581-4(1949); cf. *C.A.* 45, 8215i.—Carbonate rocks and sandstones with carbonate cements are abundant in the Ural-Volga and Trans-Caucasian petroleum regions; a HCl treatment for improving the petroleum output has increasingly practical importance. The investigations of T. chiefly concern carbonate rocks of Grusinia and polymict sandstones with carbonate cement in the coal-bearing horizons of the Lower Carbon in the deposits of Syzranska. If carbonate rocks prevail in the fragments of the clastic structures, the rocks are usually completely disintegrated, while in rocks with carbonate cement the soln. only attacks the latter and the acid follows along its channels. The lithological conditions, not the HCl concn., det. the rate of the attack. The permeability of rocks of the latter type could be detd. before and after the HCl treatment; the ratio of the resulting data varies in wide ranges. Grusinian rocks from Sawara Luka (polymict type with carbonate cement) showed a strong increase in permeability, while sandstones with carbonate fragments often gave inconsistent results; they may have their pores closed by the fine insol. material in the residue after the acid treatment. The reaction rate is also variable with the grain size of the carbonate material in the rocks. W. Eitel



CA

Method of determining the effective porosity of oil-bearing rocks. M. A. Tsvetkova. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1949, 721-8. The effective porosity of rocks, i.e., their capacity to hold oil, is detd. by first extracting the bituminous matter from the rock sample, impregnating the sample under vacuum with a polymerizable liquid Bakelite-type resin contg. a dye, and causing the resin to polymerize *in situ*. A resin dild. with alc. to give a viscosity of 0.5° Engler, a value common in crude oils, is preferably used. A thin slice of the impregnated rock is then placed under the microscope for calcg. the ratio of the area of the dyed portion to the total surface of the sample. The effective porosity of rocks having a complex pore structure is always less than the total pore vol. detd. by the volumetric method or by weighing. For medium- or coarse-grained sands consisting of homogeneous clastic material these values do not differ much from each other. The "hydraulic factor" of a rock can be also detd., this being the ratio of the perimeter of the pore passages on an area of 1 cm.^{2} to the perimeter of an ideal cylindrical passage of equiv. effective porosity.

Bruno C. Metanet

MOROZOVA, L.N.; GRENAUS, I.A.; TSVETKOVA, G.I.; MIRONOVA, G.V.

Reaction of the hypothalamo-hypophysio-adrenal adaptation system to acupuncture in the area of different points of influence. Sbor. trud. GMI no.9:96-100 '62. (MIRA 17:2)

1. Kafedra gospital'noy terapii lechebnogo fakul'teta Gor'kovskogo meditsinskogo instituta (zav. kafedroy professor Vogralik, V.G.)

TSVETKOVA, G. K.

"Acute Demyelinating Encephalitis," Trudy Smolenskogo Meditsinskogo Instituta, Smolensk, Vol. 4, 1952, pp. 129-135.

TSVETKOVA, G.M.

Pathomorphological changes in the nervous system following sudden death from acute coronary insufficiency without pronounced organic changes in the heart. Sud.-med. eksp. 8 no.3:9-11 Jl-S '65. (MIRA 18:9)

1. Kafedra patologicheskoy anatomii (zav.- prof. V.G. Molotkov) Smolenskogo meditsinskogo instituta.

TSVETKOVA, G.M.

Morphology of compensatory reactions in the nervous system in acute coronary insufficiency without pronounced organic changes in the heart. Trudy SMI 13:200-206 '62 (MIRA 17:7)

Morphology of compensatory reaction in the nervous system in coronary insufficiency with an acutely pronounced stenosing coronary sclerosis. Ibid.:207-216

Changes in the nervous system in experimental myocardial infarction caused by a ligation of the coronary arteries. Ibid.: 217-225

1. Iz kafedry patanatomii (zav. - prof. V.G. Molotkov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

TSVETKOVA, G.M., dotsent

Pathologicoanatomical changes in thebesian vessels, obturating arteries and arteriovenous anastomoses in different stages of coronary insufficiency. Trudy SMI 16:3-8 '63. (MIRA 18:1)

1. Iz kafedry patologicheskoy anatomii (zav. - prof. V.G.Molotkov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

TSVETKOVA, G.M.

KHANIN, Sh.G.; TSVETKOVA, G.M.

Pathohistological lesions of the central nervous system in rabbits inoculated with stabilized dry antirabic vaccine. Zhur.mikrobiol.epid i immun.,supplement for 1956:35 '57 (MIRA 11:3)

1. Iz kafedry mikrobiologii i kafedry patologicheskoy anatomii Smolenskogo meditsinskogo instituta.
(NERVOUS SYSTEM--DISEASES) (RABIES VIRUS)

TSVETKOVA, G.M.

Functional and morphological changes in the nervous system and the vascular bed of the heart in experimental neurogenic coronary insufficiency. Kardiologiia no.1:42-46 '64. (MIRA 17:10)

1. Kafedra patologicheskoy anatomii (zav. - prof. V.G. Molotkov) i fiziologii (zav.- prof. Ya.A. Milyagin) Smolenskogo meditsinskogo instituta i laboratoriya kortiko-vistseral'noy fiziologii i patologii (zav.- prof. I.T. Kurtsin) Instituta fiziologii imeni Pavlova AN SSSR.

AYVAZYAN, A.V., dots., TSVETKOVA, G.M.

Clinical picture and pathologic anatomy of pheochromocytoma. Sov.med. 22 no.9:87-92 S'58 (MIRA 11:11)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. S.M. Nekrasov) i kafedry patologicheskoy anatomii (zav. - prof. V.G. Molotkov) Smolenskogo meditsinskogo instituta (dir. - dotsent G.M. Starikov).
(PEHOCHROMOCYTOMA,
clin. picture & pathol. anat. (Rus))

TSVETKOVA, G.M. (Smolensk)

Pathomorphological changes in the nervous system in various stages of coronary insufficiency. Arkh. pat. 26 no.6:25-33 '64. (MIRA 18:12)

1. Kafedra patologicheskoy anatomii (zav. - prof. V.G.Melekhov) Smolenskogo meditsinskogo instituta. Submitted May 21, 1963.

SUVOROV, N.N.; SOROKINA, N.P.; TSVETKOVA, G.N.

Derivatives of indole. Part 22: Improved synthesis of tryptamines. Zhur. ob. khim. 34 no. 5:1595-1598 My '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze.

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AUTHORS: Shcherbakov, V.N., Kubatkina, V.V., Motova, L.M. Tsvetkova, G.N. and Yarochkina, A.N.

TITLE: X-Ray Diffraction Investigation of Carbide-Formation Processes During Tempering of Hardened Alloy Steels

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.4, pp.622-627

TEXT: The authors state that there are divergent views on carbide-formation effects even in carbon and low-alloy steels as well as in alloy steels. They describe their investigation of steels with various contents of carbon (0.2 to 1.0%) and alloying element (0.6 to 7.7% Cr, 1.2 to 5.5% Mn, 0.3 to 2.2% Mo, 0.1 to 10.3% V and 0.6 to 18.1% W). Chromium steels were hardened from 1150 to 1300, manganese from 950, molybdenum from 1100, vanadium and tungsten from 1200-1350°C. Tempering was effected at 200, 300, 400, 500, 600 and 680°C. Carbide phases formed at different stages of tempering were separated electrolytically and studied by X-ray diffraction (Debye method, chromium radiation), the powder being contained in a celluloid capillary. The phases found for various tempering temperatures

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X-Ray Diffraction Investigation of Carbide-Formation Processes During Tempering of Hardened Alloy Steels

are shown in Tables 1 to 5 for chromium (types 10X6 (10Kh6), 10X30 (10Kh30), 10X40 (10Kh40), 10X70 (10Kh70), 5X40 (5Kh40), 5X70 (5Kh70), 2X40 (2Kh40)); manganese (types 10Г12 (10G12), 10Г20 (10G20), 10Г30 (10G30), 10Г50 (10G50), 5Г30 (5G30), 2Г30 (2G30); molybdenum (types 10M3 (10M3), 10M6 (10M6), 10M12 (10M12), 10M20 (10M20), 6M20 (6M20), 3M20 (3M20), 2M20 (2M20)); vanadium (types 10Ф1 (10F1), 10Ф3 (10F3), 10Ф6 (10F6), 10Ф12 (10F12), 10Ф20 (10F20), 10Ф40 (10F40), 5Ф20 (5F20), 2Ф20 (2F20), 2Ф100 (2F100)); and tungsten (types 10В6 (10V6), 10В10 (10V10), 10В20 (10V20), 10В40 (10V40), 10В60 (10V60), 10В130 (10V130), 10В180 (10V180), 5В40 (5V40), 2В40 (2V40)) steels, respectively. Results of chemical analysis for Fe and Mn (wt.%) in carbide residue of 2G30, 10G30 and 10G50 manganese steels are shown in Table 6 (analyses carried out by E.I.Levina). The published dependence of the change in the Fe_3C phase on the degree of alloying of steel was confirmed in this work. Information was also obtained on the primary growth and subsequent coagulation of crystals of special carbides (precipitating as a

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E111/E452

X-Ray Diffraction Investigation of Carbide-Formation Processes During Tempering of Hardened Alloy Steels

result of cementite formation) in relation to the ratio of the alloying-element and carbon contents of steels. There are 6 tables.

ASSOCIATION: Gor'kovskiy issledovatel'skiy fiziko-tekhnicheskiy institut (Gor'kiy Physics and Engineering Research Institute)

SUBMITTED: July 25, 1959

Card 3/3

TSVETKOVA-GOLEVA, V.; GROZDANOV, L.

Gibbsite of the Rila Mountains. Spis Bulg geol druzh 25 no.2: 190 192 '64.

1. Geologic Institute of the Bulgarian Academy of Sciences.

ZAGOREVSKIY, V. A.; TSVETKOVA, I. D.; ORLOVA, E. K.

Series of pyran, its analogs and related compounds. Part 6: Interaction of the derivatives of 4, 4-dichlorochromene-3-dicarboxylic acid with aromatic amines. Zhur. ob. Khim. 34 no.6:1911-1917 Je '64. (MIRA 17:7)

1. Institut farmakologii i khimioterapii AMN SSSR.

ZAGOREVSKIY, V.A.; TSVETKOVA, I.D.; ORLOVA, E.K.

Interaction of 4,4-dichlorochromen-2-carboxylic acid derivatives with cyanoacetic ester. Zhur. ob.khim. 34 no. 5:1685-1686 My '64. (MIRA 17:7)

1. Institut farmakologii i khimioterapii AMN SSSR.

ZAGOREVSKIY, V.A.; TSVETKOVA, I.D.; ORLOVA, E.K.; ZYKOV, D.A.

Rare case of a direct formation of imines in the chromone series. Zhur. org. khim. 1 no.8:1517-1518 Ag '65.
(MIRA 18:11)

1. Institut farmakologii i khimioterapii AMN SSSR.

BARANNIK, P.I., prof.; MIKHALYUK, I.A., dotsent; MNATSAKANYAN, R.P., assistent; TSVETKOVA, I.N.; YATSULA, G.S.

Zinc, manganese, cobalt, and iodine in potable artesian water in Kiev. Gig. i san. 26 no.4:95-97 Ap '61. (MIRA 15:5)

1. Iz kafedry obshchey gigiyeny Kiyevskogo meditsinskogo instituta.
(KIEV--WATER--ANALYSIS)

IZDEBSKIY, A.M.; ZARIVAYSKAYA, Kh.A.; SVETLAYA, Ye.N.; TSVETKOVA, I.N.

Hygienic requirements for natural lighting of residential structures in climatic zones of the Ukrainian S.S.R. Gig. i san. 24 no.6:70-71 Je '59. (MIRA 12:8)

1. Iz Ukrainskogo instituta kommunal'noy gigiyeny.
(ILLUMINATION
hyg. requirements for natural lighting of residential structures in Ukraine (Rus))

BARANNIK, P.I., prof. ZANOZDRA, S.F.[deceased], MIKHALYUK, I.A., TSVETKOVA, I.N.

The sanitation picture of well water supply for villages in Dymer District. Vrach.delo no.6: 647 Je '58 (MIRA 11:7)

1. Kafedra obshchey gigiyeny Kiyevskogo meditsinskogo instituta.
(DYMER DISTRICT--WATER SUPPLY, RURAL)

BARANNIK, P.I., prof.; MIKHALYUK, I.A.; TSVETKOVA, I.N.; LYASHEVSKAYA, V.F.

Hygienic aspects of natural lighting of auditoriums of Kiev. Vrach. delo supplement '57:110 (MIRA 11:3)

1. Kafedra obshchey gigiyeny (zav.-prof. P.I.Barannik) Kiyevskogo meditsinskogo instituta.
(KIEV--LIGHTING) (AUDITORIUMS)

TSVETKOVA, I.P.

Regeneration ability of planarians (Polycelus nigra) of different ages. Nauch. dokl. vys. shkoly; biol. nauki no.1:18-20 '64. (MIRA 17:4)

1. Rekomendovana kafedroy embriologii Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova.

TSVETKOVA, I. V.

Dissertation: "Increasing the Salt Stability of Millet and Wheat in Irrigated Salty Soils." Cand Biol Sci, Inst of Plant Physiology imeni K. A. Timiryazev, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

Tsvetkova, I. V.

USSR/Agriculture - Soil preparation

Card 1/1 : Pub. 86 - 7/38

Authors : Genkel', P. A., Prof.; and Tsvetkova, I. V.

Title : Conditions of the life of plants under the new system for working the soil

Periodical : Priroda 43/12, 57-61, Dec. 1954

Abstract : The author finds that the roots of yearly plants from humus only when they are deprived of oxygen and this principle is used to enrich the soil. Further, every four or five years, representing a cycle of crop rotation, the soil is plowed to a depth of half a meter with a special machine which does not invert the loosened earth as in ordinary plowing. This is done twice during the year in cross directions. A description is given of experimentation in soil enrichment through the growing of various grasses. Table; illustrations.

Institution : .....

Submitted : .....

GENKEL',P.A.; BOBRITSKAYA,M.A.; TSVETKOVA,I.V.

Effect of T.S.Mal'tsev's tillage methods on certain physiological characteristics of spring wheat. Fiziol.rast. 2 no.1:42-51 Ja-F '55. (MIRA 8:9)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva i Pochvennyy institut imeni V.V.Dokuchayeva Akademii nauk SSSR, Moscow.
(Wheat) (Tillage)

TSVETKOVA, I.V.

USSR/Biology - Plant physiology

Card 1/1 Pub. 22 - 51/59

Authors : Genkel', P. A., and Tsvetkova, I. V.

Title : Increase in heat resistance of plants

Periodical : Dok. AN SSSR 102/2, 383-386, May 11, 1955

Abstract : Various means are discussed for increasing the heat resistance of various annual and perennial plants. Five USSR references (1924-1951). Tables.

Institution : Acad. of Sc., USSR, Inst. of Plant Physiol. im. K. A. Timiryazev

Presented by: Academician A. L. Kursanov, February 14, 1955

[illegible] : USSR
[illegible] : Cultivated Plants. Grains. Leguminous Grains. Tropical Cereals.

ABS. JOUR. : Ref Zhur - Biologiya, No. 5, 1959, No. 19925

Author : Sobkal', T.A.; Tsvetkova, I.V.
INST. : Acad. of Sciences USSR
TITLE : Water Supply and the Productivity of Summer Wheat Raised According to T.S.Mal'tsev's System.

ORIG. PUB. : V. sb.: Biol. osnovy oroshayem. zemled. M., AN SSSR. 1957, 220-228

ABSTRACT : This study was made at the kolkhoz in Shadrinskiy Rayon, Kurganskaya Oblast in 1954. When the soil was cultivated according to T.S.Mal'tsev's system, the volume of the root systems, as well as its overall and active absorbing surface grew, especially in the upper horizon, where its weight and volume in a number of cases increased by [illegible]. The plants were better supplied with moisture, were distinguished by higher protoplasmic

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CATEGORY : Cultivated Plants

SRS. JOUR. : [illegible]

AUTHOR :

INST. :

TITLE :

ORIG. PUB.:

ABSTRACT : viscosity, and withstood overheating and drought better. Their height in the majority of cases was 5-8 cm higher than the control variations. All of these factors contributed to raising the crop yield, however the results which were gotten are difficult to compare because of lodging of the wheat. --Yu.L. Guzhev

CARD: 2/2

TSVETKOVA, I. V.

GENKEL', P.A.; ANDREYEVA, I.N.; YERMAKOVA, K.G.; TSVETKOVA, I.V.

Effect of the new tillage system on the basic features in the physiology of wheat. Izv. AN SSSR. Ser.biol. no.4:448-465 Jl-Ag '57. (MLRA 10:8)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva Akademii nauk SSSR.

(TILLAGE) (WHEAT)

TSVETKOVA, I. V.

LAPSHINA, Ye.I. (Novosibirsk); TSVETKOVA, I.V. (Novosibirsk).

Out-session of the Section of Biological Sciences of the Academy of Sciences of the U.S.S.R. held in Novosibirsk, nov.20-24, 1956. (MLRA 10:7)
Bot.zhur. 42 no.6:962-966 Je '57.
(Siberia--Agricultural research)

PORTUGALOV, V.V.; TSVETKOVA, I.V.; YAKOVLEV, V.A.

Localization of protein metabolism in the microstructures of the central nervous system. TSitologiia 1 no.4:422-430 Jl-Ag '59. (MIRA 12:10)

1. Laboratoriya gistokhimii Instituta mozga AMN SSSR, Moskva.
(PROTEIN METABOLISM) (BRAIN)

TSVETKOVA, I.V.; ROZEN'FEL'D, Ye.L.

Splitting of neuraminic acid by homogenates and extracts of rat seminal glands. Vop. med. khim. 7 no.5:528-531 S-O '61. (MIRA 14:10)

1. The Laboratory of Clinical Chemistry of the Institute of Biological and Medical Chemistry of the Academy of Medical Sciences of the U.S.S.R., Moscow.

(TESTICLE) (NEURAMINIC ACID)

TSVETKOVA, I.V.

Activity of neuraminic acid aldolase and neuraminidase in the cells of ascites and solid forms of hepatoma 22 in mice. Vop.med.khim. 11 no.5:97-100 S-O '65. (MIRA 19:1)

1. Laboratoriya klinicheskoy khimii i biokhimii uglevodnogo obmena Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva. Submitted January 15, 1965.

L 14258-66 RD

ACC NR: AT6003906 SOURCE CODE: UR/2865/65/004/000/0670/0675

37

AUTHOR: Tsvetkova, I. V.; Shaydarov, Yu. I.; Abramova, V. M.

B+1

2,44

ORG: none

TITLE: Special features of plant feeding under conditions of aeroponic cultivation for a closed system

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 670-675

TOPIC TAGS: aeroponics, plant physiology, metabolic waste, fertilizer, sodium chloride, closed ecology system, test chamber, toxicology, excretion, plant growth

ABSTRACT: In order to grow higher plants in closed ecological systems it is necessary to use mineralized products of human wastes. The danger of this procedure stems from the presence of excessive amounts of NaCl in mineralized wastes. In order to evaluate the hazard of NaCl toxicity, experiments were performed at the Artificial Climate Station of the Institute of Plant Physiology of the Academy of Sciences, USSR. For this purpose

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sprouts of Chinese cabbage were grown aeroponically. Their roots, suspended in air in a closed compartment, were automatically sprayed with nutrient solutions for 30 sec every 20 min. Aeroponics, with its absence of a substrate, has weight-saving advantages for spaceflight purposes. Three types of nutrient solutions were used: a normal solution without additional salts, the same with NaCl added (0.02--2.0% Cl ions), and solutions composed of mineralized products of human metabolism to which corrective amounts of nitrogen, phosphorus, and calcium were added. The pH of the solution was maintained at 5.8. The temperature of the chamber ranged from 20 to 25° C, the humidity from 70 to 80%.

Not only did the use of mineralized human wastes not have any toxic effects, but it brought about a stimulation of growth, as indicated by a higher rate of absorption of basic elements of mineral nutrition. On the other hand, the standard nutrient solution used turned out to have toxic properties. But nutrient solutions to which up to 0.1% NaCl had been added did not manifest toxic properties. Apparently, the presence of NaCl in the nutrient solution prevents the accumulation of soluble toxic products of the

root metabolism or those of the microflora. The addition of NaCl to the mineral nutrient solution caused a sharp increase in absorption of sodium and chlorine ions by the plant. Additions of NaCl of up to 2% did not have any adverse effects on plant growth. On the contrary, the addition of NaCl to the nutrient solution caused a significant increase in the raw weight of the plant although the dry weight was approximately equal to that of plants grown on nutrient solution without additional NaCl. Apparently, the addition of NaCl causes the plant cells to absorb more water, resulting in extra succulence.

Plants grown aeroponically have been shown to possess a higher degree of resistance to salt, apparently because of better aeration and water supply of the root systems. Tests have indicated that even significant concentrations of chlorine in aeroponic culture do not have a toxic effect on the plants. Consequently, the high amount of chlorides in the mineralized products of human metabolism will not result in death of the plants, provided they are grown aeroponically. Orig. art. has 5 tables.

[ATD PRESS: 4091-F]

SUBJ CODE: 06 / SUBM DATE: none / ORIG REF: 010 / OTH REF: 005

ACC NR: AT6036547 SOURCE CODE: UR/0000/66/000/000/0145/0146

AUTHOR: Dadykin, V. P.; Lebedeva, Ye. V.; Nilovskaya, N. T.; Tsvetkova, I. V.

ORG: none

TITLE: Experimental investigation of the higher plant in a closed ecological system [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 145-146

TOPIC TAGS: life support system, closed ecological system, plant ecology, space nutrition

ABSTRACT: Calculations have been made for one of the variants of a higher-plant link for a closed ecological system. The input and output of the link are determined in respect to the basic elements. Experiments confirmed that it was possible to obtain a crop of the selected plants which exceeds the designed productivity of a given enclosure.

A conveyor system for continuously overlapping crops of the selected plants was worked out and tested experimentally. This makes it possible to have a continuous output of edible biomass in accordance with a set schedule. It was demonstrated experimentally that a continuous harvesting of the crop was possible without changing the area of the assimilating

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ACC NR: AT6036547

surface of the plants substantially, thus assuring continuous air regeneration.

Further experiments determined the optimum light requirements for certain selected plant cultures. Gas exchange characteristics (CO_2 and O_2) for various parts of the day and various ages of the plants were worked out for a series of selected cultures. Optimal concentrations of CO_2 in relation to various light intensities were determined.

The proper nutrient solutions for replacing chemicals used up by the plants were theoretically calculated and experimentally confirmed for a whole series of cultures. The experimental testing and determination of a series of characteristics of this model plant link simplifies the insertion of this higher-plant link into the entire closed ecological system. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 2/2

GERSHTEYN, L.M.; TSVETKOVA, I.V.

Nature of thiol compounds demonstrated by histochemical methods. TSitologiia. 6 no.3:366-369 My-Je '64. (MIRA 18:9)

1. Laboratoriya biogistokhimii Instituta mozga AMN SSSR, Moskva.

TSVETKOVA, I.V.; SHAYDAROV, Yu.I.; ABRAMOVA, V.M.

Characteristics of the nutrition of plants grown in an air culture for a closed system. Probl. kosm. biol. 4:670-675 '65. (MIRA 18:9)

TSVETKOVA, I.V.; KOZINA, A.B.

Method of isolation of N-acetylneuraminic acid from blood serum proteins. Sovr. metod. v biokhim. 1:322-334 '64. (MIRA 18:5)

TSVETKOVA, I.V.

Aldolase of neuraminic acid and neuraminadase in animal tissues. Biokhimiia 30 no.2:407-414 Mr-Ap '65. (MIRA 18:7)

1. Laboratoriya klinicheskoy khimii i biokhimii uglevodnogo obmena Instituta biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.